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ABSTRACT

This paper concerns the supply and demand for special education personnel for the 1986-87 school year. Obtaining valid, reliable, and comparable data on all the elements that generated personnel need was not possible. Single indicators were most commonly used to obtain data for planning by states, school districts, universities, and the Federal Government, although efforts were underway to identify and analyze the multiple factors affecting supply. Summarized data from the report are presented concerning personnel employed (1986-87), personnel needed (1986-87), and examination of Office of Special Education Programs personnel-needed data. Five tables taken from the complete report detail: (1) number, distribution, and percentage change of special education teachers employed by handicapping condition, school years 1985-86 and 1986-87; (2) the same data for special education personnel other than teachers; (3) number and distribution of special education teachers needed by handicapping condition during school year 1986-87; (4) the same data for special education personnel other than teachers; and (5) teachers employed, teachers needed and the children served under the Education of the Handicapped Act-B and Chapter 1 of the Education Consolidation Improvement Act (state operated program). (DB)

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Eleventh Annual Report to Congress on the Implementation Of the Education of the Handicapped Act, 1989

Office of Special Education Programs and Rehabilitative Services
U.S. Department of Education

INFORMATION ON THE SUPPLY OF AND DEMAND FOR PERSONNEL: EXCERPTS

PERSONNEL EMPLOYED: 1986-87

Counts of special education teachers employed in 1985-86 and 1986-87 are presented in Table 32. States and Insular Areas reported that the number of special education teachers employed increased from 291,954 to 296,196, or by approximately 1.5 percent from 1985-86 to 1986-87. Teachers of learning disabled students comprised 37.1 percent of all special education teachers in 1986-87, while teachers of mentally retarded students represented 20 percent. The largest percentage shifts from 1985-86 to 1986-87 by handicapping condition were for teachers of deaf-blind students (down 20.3 percent) and teachers of visually impaired students (up 10.5 percent).

States reported that 223,096 nonteaching staff were employed in 1986-87, compared to 229,872 in 1985-86, a decrease of 3 percent. (See Table 33.) Teachers' aides accounted for 53.5 percent of all non-teaching staff. The largest shifts in the employment of staff other than teachers were a 20 percent decrease in the number of audiologists, a 24 percent decrease in the number of vocational education teachers, and a 26 percent decrease in the number of diagnostic staff. Categories with large percentage increases include state education agency supervisors, occupational therapists, and recreational therapists.

PERSONNEL NEEDED: 1986-87

For 1986-87, States and Insular Areas reported that 26,798 additional teachers were needed to fill vacancies and replace uncertified staff. This figure is equivalent to 9 percent of all special education teachers employed. Table 34 presents these figures for different handicapping conditions. As has been true for several years, States reported that the greatest need, in absolute numbers, was for teachers of students with learning disabilities, mental retardation, emotional disturbance, and speech or language impairments. These four types of teachers accounted for 82 percent of all teachers needed. The number of teachers needed for programs for the students with emotional disturbance equalled 15 percent of those employed. For programs serving students who are deaf-blind, the comparable figure was 14.6 percent; for multihandicapped and other health impaired, it was over 10 percent.

Table 35 presents counts of the number of personnel other than teachers needed in 1986-87. The States reported a need for 12,254 additional staff members as compared to 13,712 in 1985-86. In terms of numbers of non-teaching staff needed, paraprofessionals, occupational therapists, and other non-instructional staff are most needed. When compared to the number of personnel

employed, occupational therapists (36.7 percent of those employed), work-study coordinators (20.9 percent of those employed), physical therapists (15.6 percent of those employed), and recreational therapists (10.8 percent of those employed) were most needed.

EXAMINATION OF THE OSEP PERSONNEL-NEEDED DATA

To assess the validity, reliability, and comparability of the OSEP State-reported data, Decision Resources Corporation conducted a study that included interviews with State special education data managers, local directors of special education, and directors of intermediate education units. Using several years of OSEP data, patterns of variability in reporting were analyzed and hypotheses concerning relationships between reports of personnel needed and other related variables were examined.

The results of the study indicate that States use three primary methods to collect the personnel-needed data:

* The vast majority of States send forms to local education agencies (LEAs) for completion, and the State educational agency (SEA) collects and then compiles the data.

* Several SEAs abstract the data from State reports or use estimation techniques to arrive at counts of personnel needed.

* In a few States, the SEA sends forms to intermediate education units (IEUs), which collect and compile the data before sending them to the SEA for final compilation.

These methods of data collection have a substantial effect on the magnitude and variance in reports of need. Specifically, SEAs that abstract data from State reports or use estimation techniques show lower levels of year-to-year variance in counts of personnel needed, exclude more of the required components of need as defined by OSEP, and consequently report less need relative to child count than SEAs collecting data from LEAs or IEUs.

The number of different types of teaching certificates offered in a State appears to influence the magnitude of reported need. States with non-categorical certification have a larger pool of qualified applicants to fill a given vacancy than States with categorical certification, and thus tend to report lower needs given their child counts, compared to States with categorical certification requirements.

To ascertain the validity of the personnel-needed data, correlation coefficients were calculated between some of the personnel-needed counts and other data available in the annual OSEP State data reports. (See Table 36.) Several relationships were found among these variables. For example, the relationship between number of teachers needed in 1985-86 and the teachers needed in 1986-87 was examined; the correlation for the total number of teachers needed in both years was .93. The levels of correlation varied when broken down by handicapping condition. The highest correlations were for teachers of students with emotional disturbance (.95) and for teachers of students with multiple handicaps (.91). The lowest correlation was for teachers of

students with other health impairments (.43). Correlations for needed non-teaching staff in 1985-86 and 1986-87 ranged from .01 for work-study coordinators to .81 for physical education teachers, with an overall correlation of .52.

A high negative correlation between the ratio of pupils to teachers needed and pupils to teachers employed in 1986-87 would suggest that States with low pupil-to-teacher-employed ratios reported needing fewer teachers, given the size of their student population. (Table 36 provides the data by State used to calculate these ratios.) However, this idea was not supported by the correlation coefficient of .17.

The relationships found were generally in the low to moderate range; there are several possible explanations for these findings. Either the personnel-related data are not a completely accurate measure of need, the anticipated relationships may be too simplistic, or counts of personnel needed are more highly correlated with such factors as funding levels, certification policies, geographic location, method of data collection, and other factors unavailable for analysis. As noted previously, study findings indicate that the OSEP personnel-needed data are not completely comparable by state due to different data collection methods.

CONCLUSIONS

Personnel supply, demand, and resulting need are priority concerns of special educators as they move to serve new populations with disabilities. Although these concepts are better defined than in the past, obtaining valid, reliable, and comparable data on all of the elements that generate need has not been possible to date. Single indicators have been most commonly used to obtain data for planning by States, school districts, universities, and the Federal government. Although currently available information on supply of special educators is fragmented and sometimes contradictory, efforts are underway to identify and analyze factors affecting supply.

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Supply-Demand/#28

September 1989

TABLE 32

Number, Distribution, and Percentage Change of Special Education Teachers Employed by Handicapping Condition, School Years 1985-86 and 1986-87

Handicapping Condition	1985-86	1986-87	Percentage Change (1985-86 to 1986-87)	Percentage of Total Employed 1986-87
Learning disabled	111,427	109,762	-1.5	37.1
Speech and language impaired	39,747	39,481	-0.7	13.3
Mentally retarded	61,411	59,138	-3.7	20.0
Emotionally disturbed	32,774	30,891	-5.7	10.4
Hard of hearing and deaf	8,200	8,599	4.9	2.9
Multihandicapped	9,078	8,425	-7.2	2.8
Orthopedically impaired	4,681	4,368	-6.7	1.5
Other health impaired	3,376	3,554	5.3	1.2
Visually handicapped	3,261	3,602	10.5	1.2
Deaf-blind	298	238	-20.3	0.1
Not categorized	17,701	28,139	59.0	9.5
Total[a/]	291,954	296,196	1.5	100.0

[a/]Components may not sum to totals due to rounding.

TABLE 33

Number, Distribution, and Percentage Change of Special Education Personnel Other Than Teachers Employed, School Years 1985-86 and 1986-87

Type of Personnel	1985-86	1986-87	Percentage Change (1985-86 to 1986-87)	Percentage of Total Employed 1986-87
Psychologists	16,313	16,725	2.5	7.5
School social workers	7,833	7,655	-2.3	3.4
Occupational therapists	3,120	3,530	13.2	1.6
Audiologists	961	766	-20.3	0.3
Paraprofessional	122,504	119,270	-2.6	53.5
Vocational education	5,782	4,406	-23.8	2.0
Work-study coordinators	1,989	1,857	-6.6	0.8
Physical education coordinators	5,931	5,614	-5.3	2.5
Recreational therapists	367	530	44.4	0.2
Diagnostic staff	8,624	6,347	-26.4	2.8
Supervisors	14,957	14,896	-0.4	6.7
Other non-instructional staff	31,164	31,431	0.9	14.1
Physical therapists	2,534	2,615	3.2	1.2
Counselors	6,808	5,645	-17.1	2.5
SEA supervisors	829	1,362	64.3	0.6
Total	229,872	223,096	-2.9	99.8

Note: For 1985-86 and 1986-87, the total number of personnel employed does not equal the sum of the individual personnel categories because the State of Illinois reported 156 and 444 "other instructional personnel" employed in these years, respectively. Also, these are some slight differences due to rounding.

TABLE 34

Number and Distribution of Special Education Teachers Needed by Handicapping Condition During School Year 1986-87

Handicapping Condition	Teachers Needed	Number Needed as a Percentage of Employed	Percentage of Total Needed
Learning disabled	9,564	8.7	35.7
Speech and language impaired	3,019	7.6	11.3
Mentally retarded	4,880	8.3	18.2
Emotionally disturbed	4,650	15.1	17.4
Hard of hearing and deaf	631	7.3	2.4
Multihandicapped	910	10.8	3.4
Orthopedically impaired	326	7.5	1.2
Other health impaired	376	10.6	1.4
Visually handicapped	261	7.3	1.0
Deaf-blind	35	14.6	0.1
Not categorized	2,143	7.6	8.0
Total[a/]	26,798	9.0	100.0

Note: Personnel needed include: (1) number of vacancies that occurred, even if subsequently filled; and (2) number of additional personnel needed to fill positions occupied by noncertified or nonlicensed staff.

[a/]Components may not sum to total due to rounding.

TABLE 35

Number and Distribution of Special Education Personnel
Other Than Teachers Needed During School Year 1986-87

Type of Personnel	Personnel Needed	Number Needed as a Percentage of Employed	Percentage of Total Needed
Psychologists	834	5.0	6.8
School social workers	443	5.8	3.6
Occupational therapists	1,294	36.7	10.6
Audiologists	57	7.4	0.5
Paraprofessionals	5,695	4.8	46.5
Vocational education teachers	284	6.5	2.3
Work-study coordinators	388	20.9	3.2
Physical education coordinators	302	5.4	2.5
Recreational therapists	57	10.8	0.5
Diagnostic staff	413	6.5	3.4
Supervisors	579	3.9	4.7
Other non-instructional staff	1,120	3.6	9.1
Physical therapists	408	15.6	3.3
Counselors	303	5.4	2.5
SEA supervisors	65	4.8	0.5
Total[a/]	12,254	5.5	99.9

Note: Personnel needed include: (1) number of vacancies that occurred, even if subsequently filled; and (2) number of additional personnel needed to fill positions occupied by noncertified or nonlicensed staff.

[a/]Components may not sum to total due to rounding.

TABLE 36

TEACHERS EMPLOYED, TEACHERS NEEDED AND THE CHILDREN SERVED UNDER EHA-B AND CHAPTER 1 OF ECIA (SOP)

DURING THE 1986-87 SCHOOL YEAR

STATE	CHILDREN SERVED	TEACHERS EMPLOYED	TEACHERS NEEDED
ALABAMA	91,231	4,445	264
ALASKA	12,211	1,635	117
ARIZONA	53,219	3,052	281
ARKANSAS	48,222	2,759	376
CALIFORNIA	391,217	22,011	163
COLORADO	49,515	3,537	370
CONNECTICUT	64,758	3,951	0
DELAWARE	15,275	1,112	49
DISTRICT OF COLUMBIA	7,114	664	73
FLORIDA	181,651	11,079	2,290
GEORGIA	93,229	5,974	321
HAWAII	11,658	830	16
IDAHO	18,640	913	154
ILLINOIS	248,169	25,087	156
INDIANA	105,978	6,610	590
IOWA	56,205	4,331	962
KANSAS	42,373	3,113	32
KENTUCKY	73,711	4,440	729
LOUISIANA	73,852	6,493	1,072
MAINE	26,841	1,610	125
MARYLAND	90,294	6,191	262
MASSACHUSETTS	143,636	6,814	540
MICHIGAN	161,446	11,657	445
MINNESOTA	82,407	6,579	0
MISSISSIPPI	55,683	3,443	512
MISSOURI	99,692	6,394	1,188
MONTANA	15,369	944	80
NEBRASKA	30,171	1,847	50
NEVADA	14,743	982	100
NEW HAMPSHIRE	16,323	1,384	343
NEW JERSEY	172,018	11,269	466
NEW MEXICO	29,816	2,455	506
NEW YORK	292,981	28,722	5,426
NORTH CAROLINA	109,214	5,906	598
NORTH DAKOTA	12,279	906	80
OHIO	199,211	14,115	1,154
OKLAHOMA	65,285	3,182	227
OREGON	47,487	3,745	208
PENNSYLVANIA	203,258	11,509	523
PUERTO RICO	39,858	2,127	107
RHODE ISLAND	19,527	1,193	22
SOUTH CAROLINA	73,299	3,996	890
SOUTH DAKOTA	14,034	894	131
TENNESSEE	96,433	4,470	241
TEXAS	301,222	17,870	1,100
UTAH	42,811	2,063	195
VERMONT	11,405	705	98
VIRGINIA	103,727	6,915	941
WASHINGTON	70,282	3,783	35
WEST VIRGINIA	47,556	3,189	1,185
WISCONSIN	78,067	6,368	778
WYOMING	10,893	722	39
AMERICAN SAMOA	178	31	2
GUAM	1,852	153	49
NORTHERN MARIANAS	585	56	68
TRUST TERRITORIES	-	-	-
VIRGIN ISLANDS	124	-	-
BUR. OF INDIAN AFFAIRS	5,366	290	84
U.S. & INSULAR AREAS	4,421,601	296,196	26,798
50 STATES, D.C. & P.R.	4,413,496	295,666	26,595

THE FIGURES UNDER CHILDREN SERVED REPRESENT CHILDREN 0-21 YEARS OLD SERVED UNDER CHAPTER 1 OF ECIA (SOP) AND CHILDREN 3-21 YEARS OLD SERVED UNDER EHA-B.

DATA AS OF OCTOBER 1, 1986.

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